

# Rachel Tong

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## EDUCATION

### Carnegie Mellon University

Bachelor of Science in Computer Science, Intended Concentration in Machine Learning

Pittsburgh, PA

4.0 GPA

May 2028

Relevant Courses: Computer Systems, Functional Programming, Probability and Computing, Imperative Computation, Mathematical Foundations for CS, Experimental Physics, Object Oriented Programming (Java)

Extracurriculars: ScottyLabs Labrador Developer, ACM, Computer Graphics Club

## EXPERIENCE

### Generative Intelligence Lab @ Carnegie Mellon

Research Assistant in Graphics Lab and Computer Vision Group

Pittsburgh, PA

January 2026-Ongoing

- Built with Pytorch & Tensorflow to streamline data handling and tracking on Tactile DreamFusion for texture generation
- Debugged and iterated on research codebases involving NeRFs, diffusion models, or implicit 3D representations.
- Collaborated with researchers in computer vision, graphics, and robotics to fine tune and visualize generated results

### AI OWL

Developer and Researcher at Venture Stage Startup

Columbus, OH-Hybrid

May 2025–August 2025

- Led and integrated the Python and Go backend for 2 live call-recording artificial intelligence agents supporting sales groups and nonprofits such as Big Brothers & Big Sisters leveraging LangChain libraries
- Deployed 8 full-stack web applications written with React/Node.js using AWS S3 buckets and EC2, exceeded company goal by 50%
- Automated 10+ workflows with JavaScript & Make by integrating Whisper, Google Drive, and OpenAI APIs

### Marion County IT Department

Marion, OH

Information Technology Intern

June 2024–August 2024

- Automated user provisioning for 30+ employees in Active Directory with Powershell scripts, built a chat app with Python websockets, deployed VPN software and Apache HTTP server on virtual machines.

## HONORS

Ohio Affiliate Winner, NCWIT Aspirations in Computing

May 2025

Final 3, Baldwin Wallace Programming Competition

April 2025

National Semifinalists, FIRST Robotics Competition

April 2024

Competitive Programming Award, OSU Hackathon

November 2023

## PROJECTS

### CMU Bulletin Web App (ScottyLabs)

- Developed and presented demo of front-end interface using React, integrated Firebase Authentication and NoSQL Firestore database to manage real-time posts and user interactions securely
- Implemented data querying and cloud functions to support updates and improve data retrieval speed by 30%
- Presented the project at ScottyLabs' internal demo day in collaboration with 3 other team members.

### Algorithms With A Purpose (ACM)

- Developed 3D game viewer in JavaScript ([Three.js](https://three.js.org)) for ACM's annual algorithm design competition
- Designed posters, logos, and stickers using Figma

### CatApply Gamification (HackCMU)

- Programmed a cat gacha game to improve user motivation in job applications with HTML/CSS front-end using Figma prototyping and JavaScript back-end services, featuring progression tracking hosted in AWS cloud services

### Python Pollution & Tomato Disease Emission Analysis (OSU Data I/O)

- Leveraged large datasets on vehicle classifications and emissions data to uncover trends between vehicle types and CO<sub>2</sub> emissions with Python and Tensorflow; Presented findings using Matplotlib at the OSU Data I/O Hackathon
- Trained a machine-learning model using a database of images with Python to diagnose diseased tomato plants.

### Reflections of Women in AI (Personal Project)

- Published an itch.io visual novel educational game about gendered AI using Python libraries (Ren'py)

## SKILLS

Python, Java, C, Linux, React, Node.js, Cursor, Figma, FastAPI, Javascript, GitHub, HTML, CSS, Typescript, AWS, Flask, PostgreSQL, API development, Google Cloud, SQL, Web-scraping